

DNA Shearing Sonicator

- **High throughput**
- **Uses standard sample tubes**
- **2 year warranty**



APPLICATIONS:

- **DNA shearing for Next-gen sequencing**
- **Chromatin shearing**
- **ChIP**
- **ChIP-seq**
- **RNA-seq**
- **Protein extraction**
- **Cell lysis**

KEY INSTALLATIONS:

- **Broad Institute**
- **NIH**
- **Harvard Medical School**
- **Broad Institute**
- **Memorial Sloan Kettering**
- **Max Planck Institute**
- **Ludwig Institute UCSD**
- **University of Cambridge**
- **Washington Univ. St. Louis**
- **California Institute of Technology**
- **Shanghai Inst. for Biological Sciences**

Qsonica has over 45 years of experience manufacturing ultrasonic equipment with thousands of customers around the world. All products are designed and manufactured in the USA and include a full 2-year warranty.

The Q800R3 is our 2nd generation DNA and Chromatin shearing system. Improvements include an enhanced user-friendly design and quieter operation while remaining thousands of dollars less than the competition.

Samples can be sheared to a range of fragment sizes (150bp – 3kb). The system is compatible with commercially available sample tubes and is capable of processing up to 18 samples at one time. Multiple tube rack options can accommodate 50ul - 1ml sample volumes using a variety of standard sample tubes.

The Q800R3 is a complete package including a chiller to control temperature, digital operating system with programmable memory, high intensity ultrasonics and sound reducing enclosure.

Chromatin Shearing

Example protocols and results are based on customer feedback.

Sample Protocols:

Mammalian Chromatin

Cell Type: HEK 293T (2) 10cm dishes
70-80% confluent

Total Sample Volume: 300ul

Fixation Time: 1% Formaldehyde, 13 min

Sonicator Amplitude Setting: 70%

Sonication Pulse Rate: 15 seconds On,
45 seconds Off

Total Sonication On Time: 30 min

Yeast Chromatin

Cell Type: Wild type *S. pombe* cells
grown to an OD of 1.3-1.5 in YEA.

Total Sample Volume: 300ul

Fixation Time: 1% Formaldehyde, 15 min

Sonicator Amplitude Setting: 100%

Sonication Pulse Rate: 20 seconds On,
40 seconds Off

Total Sonication On Time: 30 min

C. elegans Chromatin

Cell Type: *C. elegans* culture;
Nuclear extract 1mg/ml

Total Sample Volume: 500ul

Fixation Time: 2% Formaldehyde, 20 min

Sonicator Amplitude Setting: 70%

Sonication Pulse Rate: 30 seconds On,
30 seconds Off

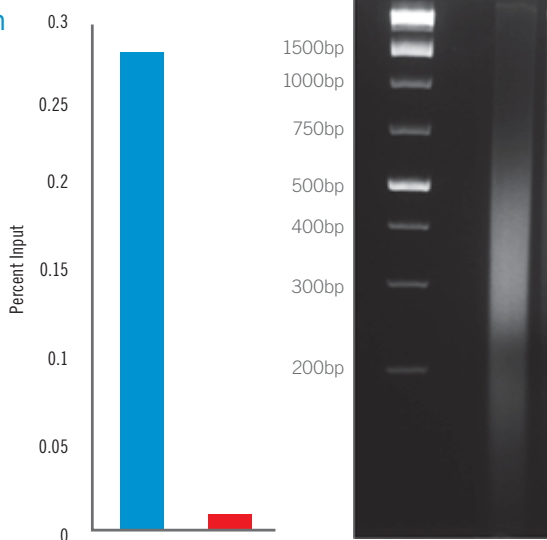
Total Sonication On Time: 20 min

Sample Results:

C. elegans Chromatin Prep & Chip

500 ul Nuclear Extract,
10ul Pol II Ab (8WG16)

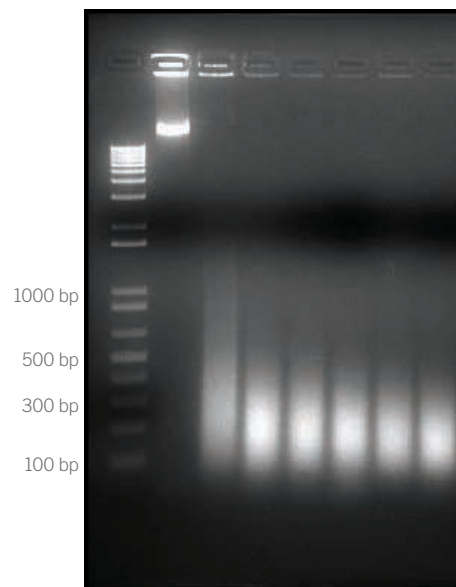
■ Protein-Coding Gene
■ Ribosomal RNA Gene



Yeast Chromatin Prep & Chip

Total Sonication Time (min)

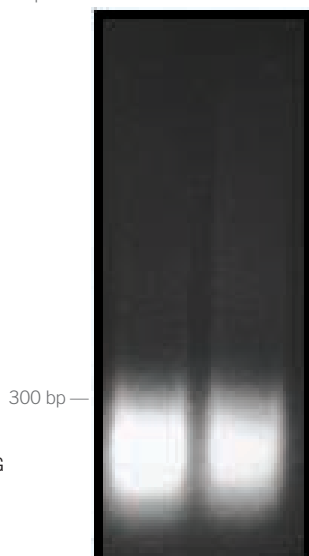
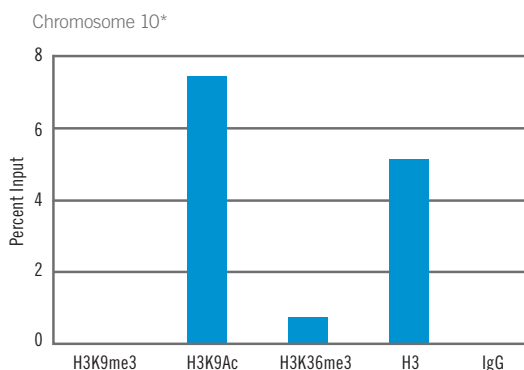
M* 0 10 20 30 40 50 60



* Note: Lane M is the NEB 1kb Plus ladder

Mammalian Chromatin Prep & Chip

Replicates 1 2



Chr10 Primer sequences: Forward - TCCTTCTCCCAACAATCAGC Reverse - GATGTCGCTCCGAATCTTG
Antibodies Used: H3K9me3 (abcamab8898), H3K9Ac (upstate 07-352), H3K36me3 (abcam
ab9050), H3 (abccamab1791)

* Average of two independent replicate chromatins in pane

Sample protocols
and publications for
additional species and
cell lines are available in
the literature section
of www.sonicator.com

www.sonicator.com/dna

DNA Shearing

Example protocols and results are based on customer feedback.

Sample Protocols:

Bacterial Genomic DNA

Cell Type / Concentration: *E.coli* / 250ng

Sonication Pulse Rate: 15 seconds On, 15 seconds Off

Total Sample Volume: 200ul in 0.5ml tubes

Total Sonication On Time: As indicated below

Sonicator Amplitude Setting: 20%

Human Skeletal Myoblast Genomic DNA

Cell Type / Concentration: LHCN-M2 Skeletal Myoblast / 200ng

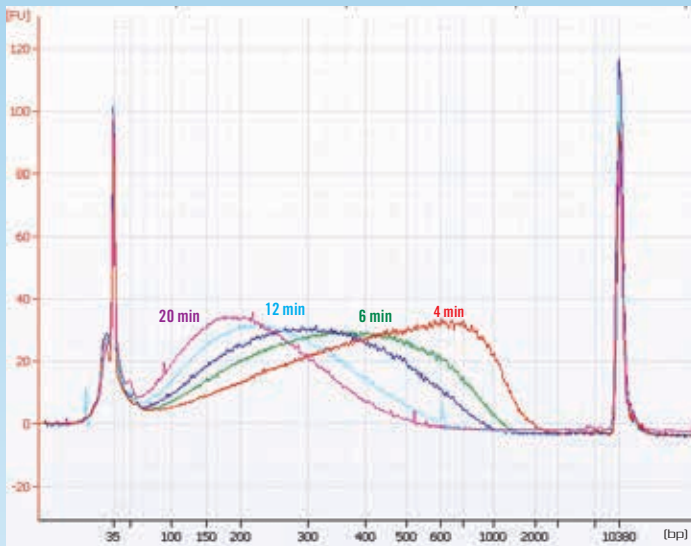
Sonication Pulse Rate: 15 seconds On, 15 seconds Off

Total Sample Volume: 200ul in 0.5ml tubes

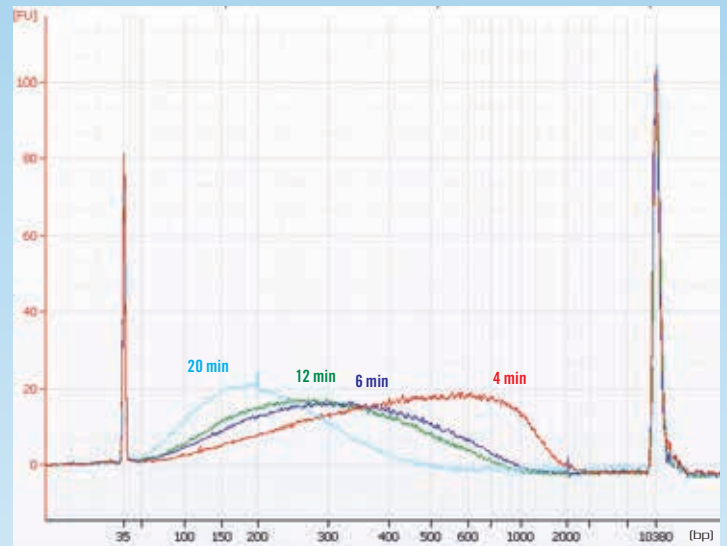
Total Sonication On Time: As indicated below

Sonicator Amplitude Setting: 20%

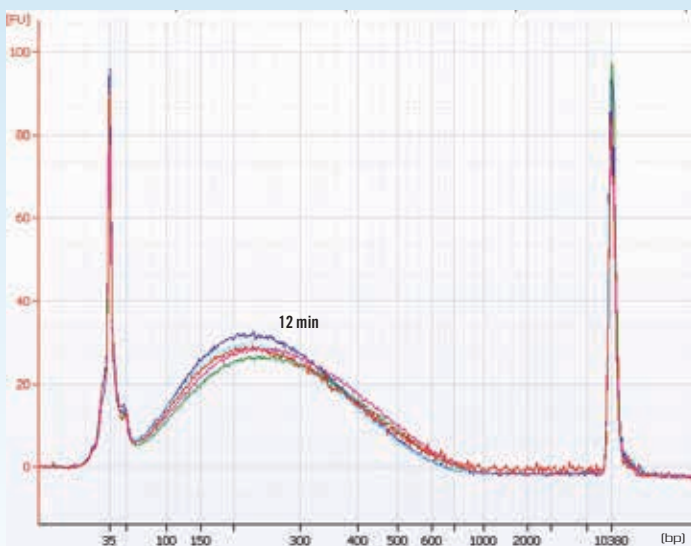
Fragmentation Over Time



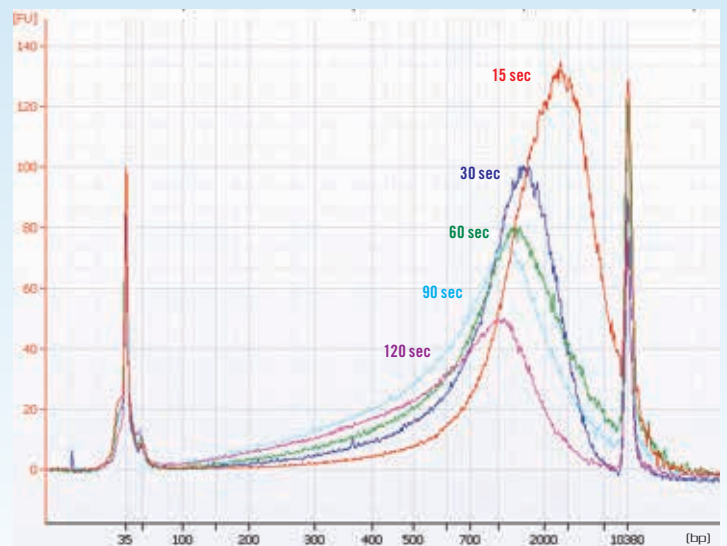
Fragmentation Over Time



Testing Independent Replicates



Fragmentation Over Time





Digital operating system with programmable memory



Completely integrated system includes a Chiller to control processing temperatures



Rotating sample tube holder with internal lighting

Sample Tube Rack Options for the Q800R3 System

#4256
8 tube holder
(1.5mL Polystyrene tubes)



#4255
12 tube holder
(0.5mL PCR tubes)



#4262
18 tube holder
(0.3mL PCR tubes)



Technical Specifications:

- Power Rating:** 750 Watts
- Frequency:** 20 kHz
- Programmable Timer:** 1 second to 10 hours
- Voltage:** 110V*, 50/60Hz

**Specify desired voltage for export*

Dimensions:

- Generator 8.00" W x 15.25" L x 8.50" H
- Enclosure 11.50" W x 12.00" L x 20.00" H
- Chiller 11.00" W x 13.00" L x 13.00" H

Additional information on our website:

- Sample Protocols
- Optimization tips
- Video
- Customer Feedback
- Recent Publications



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